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CONFIDENTIAL

20 March 1958

MEMORANDUM FOR THE RECORD

SUBJECT: Visit to [] on the Portable Hydrogen Generator

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1. On 18 March 1958 the undersigned met with []
[] for the purpose of reviewing progress on the portable hydrogen generator.

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2. Only two tests had been run since the last visit. Both were run at higher catalyst concentrations in an effort to reduce to generation time. Phase I of this program had indicated that a 40% reduction in generation time would result from a doubling of the catalyst. It appears that this relationship is about 30% reduction for each doubling of the catalyst in the scaled up generator. The catalyst requirements of the full scale unit, however have turned out to be considerably higher than had been predicted from Phase I - the full sized unit may require as high as 25 pounds of catalyst as opposed to about 2.5 pounds originally anticipated. [] is planning on running a series of tests to establish this catalyst requirement, the aim being to develop a corrected temperature - catalyst curve.

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3. Four series of tests are planned as follows:
(a) 1/10 scale $T=65^{\circ}F$ $t = 45$ min. $Co Cl_2 = X$
(b) 1/10 scale $T=45^{\circ}F$ $t = 45$ min. $Co Cl_2 = Y$
a corrected temperature - catalyst curve applicable to the 45 min. generation time and the selected borohydride concentration should result.
(c) 1/5 scale tests to check out the results of a and b.
(d) 1/5 scale tests at higher borohydride concentrations to determine the time - temperature effect.

4. [] will send a letter report describing the water vapor problem as he sees it.

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5. Further experimentation with the ring entry introduction of the catalyst has convinced [] that this type of entry will be satisfactory after all. The full scale unit has been ordered from [] Delivery is expected by 1 June 1958. The full scale unit will neither weigh as much nor occupy as much space as earlier reported. [] personnel state that the unit can be wrapped into a cylinder 15 inches in diameter by 33 inches long and that it will weigh only 50 pounds.

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